

IN THE CLAIMS

For the convenience of the Examiner, all pending claims are shown below whether an amendment has been made or not.

1. (Currently Amended) A method for demultiplexing non-intensity modulated wavelength division multiplexed (WDM) signals, comprising:

receiving a wavelength division multiplexed (WDM) signal having a plurality of non-intensity modulated optical information signals; and

converting a plurality of the non-intensity modulated optical information signals to intensity modulated signals while the plurality of non-intensity modulated optical information signals are multiplexed in at least a portion of the WDM signal, the plurality of non-intensity modulated signals being converted using an asymmetric ~~Mach-Zender~~ **Mach Zehnder** interferometer comprising a free spectral range coinciding with a channel spacing of the WDM signal or an integer multiple of the channel spacing.

2. (Cancel)

3. (Cancel)

4. (Cancel)

5. (Original) The method of Claim 1, further comprising converting all non-intensity modulated optical information signals of the WDM signal to intensity modulated signals simultaneously prior to first stage demultiplexing.

6. (Original) The method of Claim 1, wherein the plurality of non-intensity modulated optical information signals comprise a set of partially demultiplexed signals from the WDM signal.

7. (Previously Presented) The method of Claim 1, wherein the WDM signal includes a minimum channel spacing that is greater than $(N+0.4)B$ and less than $(N+0.6)B$, where B comprises the symbol rate of the WDM signal and N comprises an integer.

8. (Previously Presented) The method of Claim 7, wherein the minimal channel spacing is substantially equal to $(N+0.5)B$, where B comprises the symbol rate of the WDM signal and N comprises an integer.

9. (Currently Amended) The method of Claim 1, further comprising:
separating the WDM signal into a plurality of partially demultiplexed signals using at least one wavelength interleaver; and
converting non-intensity modulated optical information signals in each set simultaneously using an asymmetric ~~Mach-Zender~~ Mach Zehnder interferometer.

10. (Currently Amended) A system for demultiplexing non-intensity modulated wavelength division multiplexed (WDM) signals, comprising:
means for receiving a wavelength division multiplexed (WDM) signal having a plurality of non-intensity modulated optical information signals; and
means for converting a plurality of the non-intensity modulated optical information signals to intensity modulated signals while the plurality of non-intensity modulated optical information signals are multiplexed in at least a portion of the WDM signal using an asymmetric ~~Mach-Zender~~ Mach Zehnder interferometer comprising a free spectral range coinciding with a channel spacing of the WDM signal or an integer multiple of the channel spacing.

11. (Cancel)

12. (Cancel)

13. (Cancel)

14. (Original) The system of Claim 10, further comprising means for converting all non-intensity modulated optical information signals of the WDM signal to intensity modulated signals simultaneously prior to first stage demultiplexing.

15. (Original) The system of Claim 10, wherein the plurality of non-intensity modulated optical information signals comprise a set of partially demultiplexed signals from the WDM signal.

16. (Previously Amended) The system of Claim 10, wherein the WDM signal includes a minimum channel spacing that is greater than $(N+0.4)B$ and less than $(N+0.6)B$, where B comprises the symbol rate of the WDM signal and N comprises an integer.

17. (Previously Presented) The system of Claim 16, wherein the minimal channel spacing is substantially equal to $(N+0.5)B$, where B comprises the symbol rate of the WDM signal and N comprises an integer.

18. (Currently Amended) The system of Claim 10, further comprising:
means for separating the WDM signal into a plurality of partially demultiplexed signals using at least one wavelength interleaver; and
means for converting non-intensity modulated optical information signals in each set simultaneously using an asymmetric ~~Mach-Zender~~ Mach Zehnder interferometer.

19. (Currently Amended) A demultiplexer for an optical receiver, comprising:
an asymmetric ~~Mach-Zender~~ Mach Zehnder interferometer operable to receive a wavelength division multiplexed (WDM) signal having a plurality of non-intensity modulated optical information signals and to convert the non-intensity modulated optical information signals to intensity modulated optical information signals while multiplexed